

REMARKS

Claims 7 to 12 are currently pending.

Reconsideration of the application is respectfully requested based on the following remarks.

With respect to paragraph 3 of the Office Action, claims 7, 10 and 12 were rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 3,211,961 to Bayly et al. (hereinafter the "Bayly" reference).

As regards the anticipation rejections of the claims, to reject a claim under 35 U.S.C. § 102(b), the Office must demonstrate that each and every claim feature is identically described or contained in a single prior art reference. (*See Scripps Clinic & Research Foundation v. Genentech, Inc.*, 18 U.S.P.Q.2d 1001, 1010 (Fed. Cir. 1991)). As explained herein, it is respectfully submitted that the Office Action does not meet this standard, for example, as to all of the features of the claims. Still further, not only must each of the claim features be identically described, an anticipatory reference must also enable a person having ordinary skill in the art to practice the claimed invention, namely the claimed subject matter of the claims, as discussed herein. (*See Akzo, N.V. v. U.S.I.T.C.*, 1 U.S.P.Q.2d 1241, 1245 (Fed. Cir. 1986)).

As further regards the anticipation rejections, to the extent that the Office Action may be relying on the inherency doctrine, it is respectfully submitted that to rely on inherency, the Examiner must provide a "basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristics *necessarily* flows from the teachings of the applied art." (*See* M.P.E.P. § 2112; emphasis in original; and *see Ex parte Levy*, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Int'f. 1990)). Thus, the M.P.E.P. and the case law make clear that simply because a certain result or characteristic may occur in the prior art does not establish the inherency of that result or characteristic. Accordingly, it is respectfully submitted that any anticipation rejection premised on the inherency doctrine is not sustainable absent the foregoing conditions.

Independent claim 7, as presented, is to an "*infrared source for a gas sensor comprising: a first layer having first transmission characteristics; and a second layer having second transmission characteristics, in which a combination of the first and the second transmission characteristics effects a bandpass filter characteristics for an operating*

frequency range, and in which the first and second transmission characteristics are based on absorption of infrared radiation.

Moreover, independent claim 10 has features like those of claim 7.

The “Bayly” reference does not identically disclose (or even suggest) at least the above-identified claim features. Specifically, the “Bayly” reference does not identically disclose (or even suggest) the feature of an infrared source having first and second layers having first and second transmission characteristics that in combination effect a bandpass filter characteristic, as provided for in the context of the presently claimed subject matter. The “Bayly” reference also does not identically disclose (or even suggest) the feature of the first and second transmission characteristics being based on absorption of infrared radiation, as provided for in the context of the presently claimed subject matter.

Instead, the “Bayly” reference merely refers to infrared source 10 in FIG. 7 as including resistive spiral 122 and at most a single layer, i.e., quartz window 124. However, because the quartz window 124 is only a single layer, the “Bayly” reference does not identically disclose an infrared source having first and second layers having first and second transmission characteristics. At best, quartz window 124 is only one layer, and therefore at best there is only a single transmission characteristic.

In contrast, having the first and second transmission layers being part of the infrared source provides some of the great benefits of the presently claimed subject matter because it reduces the number of separate components needed to construct an infrared gas sensor, as is explained in the present application

Furthermore, even if the “Bayly” reference were to indicate that the quartz window 124 has a transmission characteristic (assuming for the sake of argument that it has some type of transmission characteristic), the “Bayly” reference does not identically disclose (nor suggest) a transmission characteristic that combines with another transmission characteristic to effect a bandpass filter characteristic, as provided for in the context of the presently claimed subject matter.

Moreover, the “Bayly” reference does not identically disclose that the quartz window 124 has a transmission characteristic based on absorption of infrared radiation, as provided for in the context of the presently claimed subject matter.

In making the present rejection, the Office Action appears to rely upon Fabry-Perot filters 12, 13, 14, 15 (col. 4, lines 1-50 of the “Bayly” reference), as being supposedly akin to

the first and second layers of the infrared source recited in claim 7. However, firstly, Fabry-Perot filters 12, 13, 14, 15 of the “Bayly” reference are not part of the infrared source of the “Bayly” reference. That is, the “Bayly” reference clearly indicates the contents of FIG. 6 as being the infrared source, and therefore because Fabry-Perot filters 12, 13, 14, 15 are located outside of the infrared source depicted in FIG. 6, filters 12, 13, 14, 15 of the “Bayly” reference therefore do not identically disclose first and second layers of an infrared source. Secondly, the filters 12, 13, 14, 15 of the “Bayly” reference are based on interference and reflection phenomena, as is generally the case with Fabry-Perot filters, and as is discussed in col. 4, lines 1-50 of the “Bayly” reference. Therefore, filters 12, 13, 14, 15 of the “Bayly” reference do not identically disclose first and second layers that have transmission characteristics based on absorption of infrared radiation.

That Fabry-Perot filters such as filters 12, 13, 14, 15 of the “Bayly” reference are clearly not the type of filters provided by the first and second layers of the presently claimed subject matter, of claims 7 and 10, is further evidenced by noting that claim 10 actually includes an additional interference-based filter that is separate from the infrared source having the first and second layers. Thus, the intended difference between the claimed first and second layers and interference-based filters such as Fabry-Perot filters is clear.

Therefore, the features of claims 7 and 10, as presented, including the features identified above, are not identically disclosed (or suggested) by the “Bayly” reference. Accordingly, claims 7 and 10, as presented, are allowable, as are their dependent claim 12. It is therefore respectfully requested that the anticipation rejection of claims 7, 10 and 12 be withdrawn.

With respect to paragraph 6 of the Office Action, claims 8, 9 and 11 were rejected under 35 U.S.C. § 103(a) as unpatentable over the “Bayly” reference.

To reject a claim as obvious under 35 U.S.C. § 103, the prior art must disclose or suggest each claim feature and it must also provide a motivation or suggestion for combining the features in the manner contemplated by the claim. (See Northern Telecom, Inc. v. Datapoint Corp., 908 F.2d 931, 934 (Fed. Cir. 1990), cert. denied, 111 S. Ct. 296 (1990); In re Bond, 910 F.2d 831, 834 (Fed. Cir. 1990)). Thus, the “problem confronted by the inventor must be considered in determining whether it would have been obvious to combine the references in order to solve the problem”, Diversitech Corp. v. Century Steps, Inc., 850 F.2d 675, 679 (Fed. Cir. 1998).

Claims 8, 9 and 11 depend on independent claims 7 and 10, and are therefore also allowable for the reasons explained above, since the critical deficiencies of the “Bayly” reference with respect to these independent claims have not been cured. Therefore, withdrawal of this obviousness rejection is respectfully requested.

With further respect to this rejection, the Office Action has taken Official Notice with respect to certain claim features. Specifically, the Office Action “*takes Official Notice that the use of multi-layered, narrow and wide band-pass filters comprised of silicon, glass, or germanium having selected wavelength transmission bands is well known in the art . . . Therefore it would have been obvious to utilize narrow and wide band-pass filters to provide a specific infra-red spectral selectivity.*” The Office Action further cites two references, including U.S. Patent No. 5,726,798 to Bushman, and “Design of Multilayer Filters by Considering Two Effective Interfaces” by Smith, as supposedly providing evidence to support the Official Notice.

Applicant, however, hereby respectfully traverses the Official Notice. Applicant submits that the Official Notice is in error at least because it does not pertain to the type of layers and transmission characteristics used by the presently claimed subject matter. As explained above, the presently claimed subject matter involves first and second layers; which together provide a combined bandpass transmission characteristic, and which each have individual transmission characteristics based on absorption of infrared radiation. However, both of the references provided as evidence for the Official Notice pertain to filters based on interference and reflection phenomena. As such, neither of these references is relevant to, or discloses, layers having transmission characteristics based on absorption of infrared radiation.

Accordingly, claims 7 to 12 are allowable.

CONCLUSION

Applicants respectfully submit that all pending claims of the present application are allowable. It is therefore respectfully requested that the objections and rejections be withdrawn. Prompt reconsideration and allowance of the present application are therefore respectfully requested.

Dated: _____

9/7/2007

Respectfully submitted,

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